1. (Twice Amended) A method of producing ungulate embryonic stem-like cells, wherein said cells comprise a nucleus derived from an adult differentiated cell of a first ungulate species and mitochondria from an oocyte of a second ungulate species other than the species of said adult differentiated cell, comprising the following steps:

(i) inserting a donor differentiated cell or cell nucleus of said first ungulate species into a recipient animal oocyte of said second ungulate species under conditions suitable for the formation of a nuclear transfer (NT) unit, wherein the endogenous oocyte nucleus is removed or inactivated before, concurrent, or after introduction of donor cell or nucleus;

(ii) activating the resultant nuclear transfer unit;

(iii) additionally inserting into said oocyte cytoplasm derived from a second oocyte or a blastomere of the same species as the donor cell or nucleus;

(iv) culturing said activated nuclear transfer unit until greater than the 2-cell developmental stage;

(v) disassociating said activated nuclear transfer unit; and

(vi) isolating cells from said disassociated nuclear transfer unit to obtain embryonic stem-like cells.

5. (Amended) The method of Claim 4, wherein said second oocyte is an immature oocyte

6. (Amended) The method of Claim 5, wherein said second oocyte is an immature bovine oocyte.

7. (Amended) The method of Claim 5, wherein said immature oocyte is matured *in vitro* prior to isolation of cytoplasm therefrom.

8. (Amended) The method of Claim 5, wherein said immature oocyte is activated *in vitro* prior to isolation of cytoplasm therefrom.

10. (Amended) The method of Claim 2, wherein all or part of the cytoplasm of the recipient oocyte is removed prior to introduction of cytoplasm from said at least one second oocyte or blastomere of the same species as the donor cell or nucleus.

11. (Amended) The method of Claim 1, wherein the cell or cell nucleus inserted into the enucleated oocyte is a bovine cell.

12. (Amended) The method of Claim 11, wherein said bovine cell is an adult cell.

13. (Amended) The method of Claim 11, wherein said bovine cell is an epithelial cell, keratinocyte, lymphocyte or fibroblast.

14. (Amended) The method of Claim 11, wherein the recipient oocyte is obtained from a bovine mammal.

15. (Amended) The method of Claim 14, wherein the animal oocyte is obtained from Bos taurus.

16. (Amended) The method of Claim 1, wherein said first and second ungulate species are both of an ungulate that is selected from the group consisting of bovine, ovine, porcine, equine, caprine, and buffalo.

18. (Amended) The method of Claim 1, wherein the fused nuclear transfer unit is activated *in vitro*.

19. (Amended) The method of Claim 1, wherein the activated nuclear transfer unit is cultured on a feeder layer culture.

24. (Amended) The method of Claim 1, wherein the resultant embryonic stem-like cells are induced to differentiate.

25. (Amended) The method of Claim 11, wherein the resultant bovine embryonic stem-like cells are induced to differentiate.

27. (Amended) Ungulate embryonic stem-like cells obtained according to the method of Claim 1, which cells have mitochondria of said second ungulate species.

28. (Amended) Bovine embryonic stem-like cells obtained according to the method of Claim 11, which cells have mitochondria of said second ungulate species.

29. (Twice amended) Bovine embryonic stem-like cells obtained according to the method of Claim 12, which cells have mitochondria of said second ungulate species.

30. (Twice amended) Bovine embryonic stem-like cells obtained according to the method of Claim 13, which cells have mitochondria of said second ungulate species.

31. (Twice amended) Bovine embryonic stem-like cells obtained according to the method of Claim 14, which cells have mitochondria of said second ungulate species.

32. (Twice amended) Bovine embryonic stem-like cells obtained according to the method of Claim 15, which cells have mitochondria of said second ungulate species.

33. (Amended) Differentiated bovine cells obtained by the method of Claim 25, which cells have mitochondria of said second ungulate species.

34. (Amended) The differentiated bovine cells of Claim 33, which are selected from the group consisting of neural cells, hematopoietic cells, pancreatic cells, muscle cells, cartilage cells, urinary cells, liver cells, spleen cells, reproductive cells, skin cells, intestinal cells, and stomach cells, which cells have mitochondria of said second ungulate species.

38. (Amended) The method of Claim 37, wherein said embryonic stem-like cells are bovine embryonic stem-like cells.

50. (Twice amended) An ungulate somatic cell that expresses a DNA that encodes a detectable marker, the expression of which is operably linked to a promoter that regulates the expression of a particular cyclin.

56. (Amended) An ungulate embryonic stem-like cell isolated from the inner-most portion of a nuclear transfer unit according to the method of claim 55, which cell has mitochondria of said second ungulate species.

57. (Amended) Differentiated bovine cells obtained by the method of Claim 33, wherein said differentiated cells contain and express an inserted gene.

58. (Amended) The differentiated bovine cells of Claim 33, which are selected from the group consisting of neural cells, hematopoietic cells, pancreatic cells, muscle cells, cartilage cells, urinary cells, liver cells, spleen cells, reproductive cells, skin cells, intestinal cells, and stomach cells.--